

Attorney Docket No. P11006

REMARKS/ARGUMENTS**1.) Claim Amendments**

The Applicant has amended claims 1-4. Claims 5 and 6 have been canceled. Accordingly, claims 1-5 are pending in the application. Favorable reconsideration of the application is respectfully requested in view of the foregoing amendments and the following remarks.

The claims have been amended to conform the claims to a form customary to United States practice and to make a minor clarification. Consequently, the claim amendments do not raise new issues that would require a further search or substantial consideration by the Examiner.

2.) Claim Rejections – 35 U.S.C. § 103(a)

The Examiner rejected claims 1-2 under 35 U.S.C. § 103(a) as being unpatentable over McLain, Jr. (US 5,956,513) in view of Leblang, et al. (US 5,574,898) and further in view of Hiller, et al. (US 6,658,659). The Applicant respectfully traverses this rejection.

McLain and Leblang describe computer software engineering environments such as Computer-Aided Software Engineering (CASE) for development of software, and not, for instance, software running in real-time applications. One aspect of the present invention is to provide traceability from binaries when a CASE system is not available. These binaries should not be confused with Derived Objects (DO) of a CASE system, wherein references to meta data such as a configuration record is available. According to the Applicant's understanding of prior art, these references are not available from the binary executable without the CASE system. An example of an installation which would not use a CASE system, would be a telephone exchange.

It is the applicant's understanding that a CASE system contains a database of a plurality of versions of objects. In a CASE system, the DOs are the product of a build using CLEARMAKE. The CASE system links meta data in a Configuration Record (CR) of the database to the DOs. The reference from a particular DO to CR is not in the DO but in the CLEARCASE database. Consequently, when a DO is taken out of the CASE

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environment to be implemented as an executable in, for example, an embedded system, there will be no meta data accompanying the DO in the embedded system.

This is in contrast, to an embodiment of the invention where a unique reference to a CR accompanies the executable file which may be implemented in an embedded system out of the CASE environment. For instance, claim 1 states:

1. A method of facilitating the tracing of errors in executable software of a computer controlled system, wherein said software is achieved in a building process, i.e. the compiling and linking of a number of source-code files which are stored in a version controlling system, and wherein at least a part of said building process furthermore results in a record which specifies names and versions of source-code files included in said building process comprising:

storing said record in a version controlling system,
retrieving path and version number of the record thus stored, and
bundling said path and version number with said executable
software in such a manner that said path and version number is
retrievable at the site where the executable software is to be used.

The Examiner acknowledges that McLain does not specify retrieving the version number and path, but the Examiner argues that it would have been obvious to combine McLain and Leblang to arrive at the invention. As explained above, the latter also differs from the claimed invention.

The alleged combining of McLain and Leblang would not result in the invention because it only considers version number and path while inside the CASE system. It is respectfully submitted that this combination would not result in the claimed invention because the problem involves using an executable file without the CASE database. At best, a person skilled in the art could arrive at a solution storing references in a particular file of, for example, an embedded system. However, such a file would require manual administration to keep up to date in every installation. Relevant reference included in the binary executable according to the invention reduces or eliminates administration load and guarantees correct information. Further, when stored in e.g. a PROM a particular file for storage of references would generally be unfeasible, if not impossible, to include and access.

Thus, the combination could not be arrived at because additional work would be required when the combination is used outside of the CASE environment. It is

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respectfully submitted that this additional work confirms inventiveness of claim 1, as it is not revealed nor suggested by any of the cited art.

The Examiner also acknowledges that McLain differs further from the claimed invention in that McLain does not specify bundling of path and version number with the executable software such that path and version number is retrievable at the site where the executable software is to be used (e.g., outside of the CASE environment). The Examiner uses Hiller to supply this missing claim element. However, the solution of Hiller appears to apply to native systems but not to embedded systems or applications for storage in e.g. PROM (see e.g. col. 3, ll. 60-62 & col. 5, ll. 9-18). Further, Hiller refers to a method of loading modules, at least one of which is available in a plurality of versions identified by a set of version numbers. This is not integrating path in version number of a stored record as recited in independent claim 1. Finally, Hiller differs from the invention by requiring the software being capable of identifying and selecting the module (see col. 4, ll. 1-6 & col. 6, ll. 62, 63). The present invention does not require a version aware loader of an embedded system (c.f. col. 8, ll. 10-14). Consequently, Hiller does not consider the problem nor the environment of the claimed invention. Furthermore, the combination of the cited references does not address the problem and solution provided by the invention according to claim 1.

In the present case, it is apparent from a reading of McLain, Leblang and Hiller that none of these references recognized the problem of tracking software path and version number with said executable software in such a manner that said path and version number is retrievable at the site. Thus, this is a classic example of a solution to a problem being obvious only after recognition of the problem by the applicant and is part of the "subject matter as a whole" language of 35 USC § 103 which should always be considered in determining the obviousness of an invention under this statute.

Thus, for this independent reason, the examiner's burden of factually supporting a prima facie case of obviousness has clearly not been met, and the rejection under 35 U.S.C. §103 should be withdrawn.

With reference to claim 2, the Examiner admits that McLain does not specify post-processing of the executable file with integrating of path and version number therein. The Examiner's logic following this admission has been lost on the Applicant.

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The fact is that none of the cite references McLain, Leblang, and Hiller teach or suggest "postprocessing said executable file and thus integrating said executable file and said path and version number."

As provided in MPEP § 2143, "[t]o establish a prima facie case of obviousness, ... the prior art reference (or references when combined) must teach or suggest all the claim limitations." It is respectfully submitted that the combination of McLain, Leblang, and Hiller does not teach all of the elements of claim 2. Thus, the §103 rejection should be withdrawn.

The Examiner rejected claim 3 under 35 U.S.C. § 103(a) as being unpatentable over McLain, Leblang and Hiller, and further in view of Thomas, et al. (US 6,460,052). However, Thomas does not address the concerns addressed above with respect to claims 1. Claim 3 depends on claim 1 and is patentable for the same reasons that claim 1 is patentable.

The Examiner rejected claims 4-6 under 35 U.S.C. § 103(a) as being unpatentable over McLain, Leblang, Hiller, and further in view of Hammond (US 5,974,470). The Applicant has canceled claims 5 and 6. So, this rejection is considered to be moot with respect to claims 5 and 6. The Applicant respectfully traverses this rejection with respect to claim 4.

Claim 4 states:

4. A method of facilitating the tracing of errors in executable software of a computer controlled system, wherein said software is achieved in a building process, i.e. the compiling and linking of a number of source-code files which are stored in a version controlling system, comprising:

- compiling said source code files into object files,
- linking said object files into a relocatable module, wherein said compiling and linking steps also creates a record specifying names and versions of used source code files,
- storing said record in a version controlling system,
- retrieving path and version of the record thus stored,
- creating a source code file where said path and version number are defined as global variables,
- compiling the source code file where said path and version number are defined as global variables,
- after the compiling, linking said relocatable together with said source code file where said path and version number are defined as global variables, into an executable file.

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It appears to the Applicant that the Examiner may have been combining the two linking steps into a single step. If that is the case, the Applicant respectfully traverses this interpretation and has amended the claim to make this distinction clear. In any event, none of the cite references, McLain, Leblang, and Hiller teach or suggest "after the compiling, linking said relocatable together with said source code file where said path and version number are defined as global variables, into an executable file."

As provided in MPEP § 2143, "[t]o establish a prima facie case of obviousness, ... the prior art reference (or references when combined) must teach or suggest all the claim limitations." It is respectfully submitted that the combination of McLain, Leblang, and Hiller does not teach all of the elements of claim 2. Thus, the §103 rejection should be withdrawn.

CONCLUSION

In view of the foregoing remarks, the Applicant believes all of the claims currently pending in the Application to be in a condition for allowance. The Applicant, therefore, respectfully requests that the Examiner withdraw all rejections and issue a Notice of Allowance for all pending claims.

The Applicant requests a telephonic interview if the Examiner has any questions or requires any additional information that would further or expedite the prosecution of the Application.

Respectfully submitted,

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